

Department of Energy

§ 431.92

(A) Steam pressure for steam boilers—Test must be made at atmospheric pressure or at a pressure not exceeding 2 psig.

(B) Water temperature for hot water boilers—The inlet temperature must be 35 °F to 80 °F, except that when a boiler is tested in the field after installation the inlet temperature may be as recommended by the manufacturer, but must not exceed 140 °F. The outlet temperature shall be 180 °F \pm 2 °F.

(C) After steady state operation is achieved, the minimum duration of a test run shall be 30 minutes.

(2) *Test Measurements.* Use the test procedure from Section 5, Efficiency by Heat Loss Method, of ASME PTC 4.1 (Incorporated by reference, see § 431.85). Use the test conditions as specified in paragraph (d)(1) of this section. For a boiler that is capable of supplying either steam or hot water, follow paragraph (c)(2)(iii) of this section.

(3) *Calculation of Combustion Efficiency.* Use the heat loss method for gas or oil fuel as specified in Section 7.3 and the Test Forms for the Abbreviated Efficiency Test, PTC 4.1-a (Summary Sheet) and PTC 4.1-b (Calculation Sheet), of ASME PTC 4.1 to determine the combustion efficiency, except that the following specific heat loss terms (as listed in Section 7.3 of ASME PTC 4.1) to 0: sections 7.3.2.03 (moisture in fuel), 7.3.2.01 (combustible in dry refuse), 7.3.2.10 (radiation to surroundings), 7.3.2.05 through 7.3.2.09 and 7.3.2.11 through 7.3.2.14 (unmeasured losses) must be set. (Incorporated by reference, see § 431.85)

ENERGY EFFICIENCY STANDARDS

§ 431.87 Energy conservation standards and their effective dates.

Each manufacturer of a commercial packaged boiler manufactured on or after January 1, 1994, must meet the following energy efficiency standard levels:

(a) For a gas-fired packaged boiler with a capacity (rated maximum input) of 300,000 Btu/hr or more, the combustion efficiency at the maximum rated capacity must be not less than 80 percent.

(b) For an oil-fired packaged boiler with a capacity (rated maximum input)

of 300,000 Btu/hr or more, the combustion efficiency at the maximum rated capacity must be not less than 83 percent.

Subpart F—Commercial Air Conditioners and Heat Pumps

SOURCE: 69 FR 61969, Oct. 21, 2004, unless otherwise noted.

§ 431.91 Purpose and scope.

This subpart specifies test procedures and energy conservation standards for certain commercial air conditioners and heat pumps, pursuant to Part C of Title III of the Energy Policy and Conservation Act, as amended, 42 U.S.C. 6311–6316.

§ 431.92 Definitions concerning commercial air conditioners and heat pumps.

The following definitions apply for purposes of this subpart F, and of subparts J through M of this part. Any words or terms not defined in this section or elsewhere in this part shall be defined as provided in 42 U.S.C. 6311.

Coefficient of Performance, or COP means the ratio of the produced cooling effect of an air conditioner or heat pump (or its produced heating effect, depending on the mode of operation) to its net work input, when both the cooling (or heating) effect and the net work input are expressed in identical units of measurement.

Energy Efficiency Ratio, or EER means the ratio of the produced cooling effect of an air conditioner or heat pump to its net work input, expressed in Btu/watt-hour.

Heating seasonal performance factor, or HSPF means the total heating output of a central air-conditioning heat pump during its normal annual usage period for heating, expressed in Btu's and divided by the total electric power input, expressed in watt-hours, during the same period.

Large commercial package air-conditioning and heating equipment means air-cooled, water-cooled, or evaporatively cooled electrically operated, unitary central air conditioners and central air-conditioning heat pumps for commercial application that are rated at or above 135,000 Btu per hour and